Dell™ PowerEdge™ 650 Systems

Replacing the System and Backplane Board Assemblies

Notes, Notices, and Cautions

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see the *Installation and Troubleshooting Guide*.

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The system board and backplane board are removed from the chassis as a single assembly, and are then separated for replacement of either board.

Removing the System Board/Backplane Board Assembly

CAUTION: See your *System Information Guide* for complete information about safety precautions, working inside the computer, and protecting against electrostatic discharge.

NOTE: It is not necessary to remove the hard drives or the CD/diskette drive from the system during this procedure.

To remove the system board/backplane board assembly, perform the following steps:

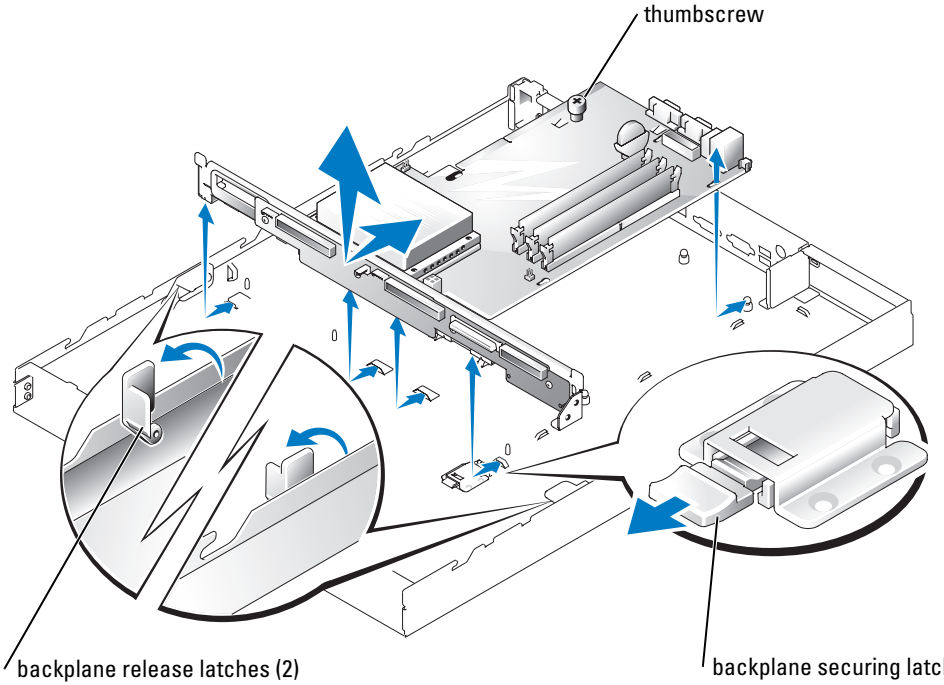
1. Turn off the system and attached peripherals, and disconnect the system from the electrical outlet.
2. Open the system. See "Opening the System" in your *Installation and Troubleshooting Guide*.
3. If you are replacing the system board, remove the system battery. See "Replacing the Battery" in your *Installation and Troubleshooting Guide*.
4. If you are replacing the system board, remove the heat sink and processor. See "Replacing the Processor" in your *Installation and Troubleshooting Guide*.
5. If you are replacing the system board, remove the memory modules. See "Removing Memory Modules" in your *Installation and Troubleshooting Guide*.
6. Remove the cooling shrouds.
7. Disconnect the control panel cable from the J3 connector on the backplane board. See "Removing the Control Panel Assembly" in your *Installation and Troubleshooting Guide*.
8. Disconnect the power and interface cables on both hard drives from the backplane board (connectors JP1, JP2, IDE0 and IDE1).
9. Disconnect the power supply cable from the back of the backplane board (connector J2). See "Replacing the Power Supply" in your *Installation and Troubleshooting Guide*.
10. If the hard-drive interface cables are routed through the backplane to a PCI controller card, disconnect these interface cables from the PCI controller card.
11. Remove all PCI expansion cards installed on the riser board. See "Removing an Expansion Card" in your *Installation and Troubleshooting Guide*.
12. Disconnect the CD/diskette drive interface cable from the backplane connector CN1.
13. Rotate the backplane release latches up. See Figure 1-1.
14. Remove the power supply. See "Replacing the Power Supply" in your *Installation and Troubleshooting Guide*.
15. Remove the fan assemblies. See "Fan Assemblies" in your *Installation and Troubleshooting Guide*.
16. Loosen the thumbscrew securing the system board to the chassis floor.

17 Loosen the two thumbscrews securing the riser board and disconnect it from the system board card-edge connector. See "Removing the Riser Board" in your *Installation and Troubleshooting Guide*.

18 Slide the backplane securing latch forward to the open position to allow the system board/backplane board to move to the forward (unlatched) position.

19 Slide the system board/backplane board assembly forward, toward the front of the system and lift the assembly up and out of the chassis. See Figure 1-1.

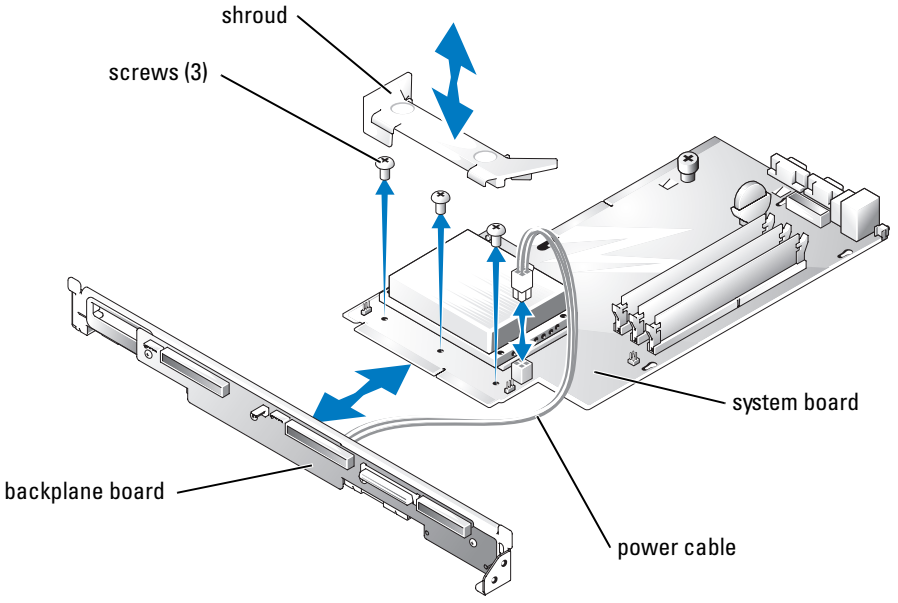
Figure 1-1. Removing the System Board/Backplane Board Assembly



20 Lay the system board/backplane board assembly down on a smooth, nonconductive work surface.

21 Remove the three Phillip screws that secure the system board to the backplane board. See Figure 1-2.

Figure 1-2. Separating the System/Backplane Board Assembly



22 Remove the power cable from the power connector on the system board. See Figure 1-2.

23 Release the plastic cable tie that secures the cable connector to connector U3 and remove the free end of the power cable from the backplane board (connector U3).

24 Pull the backplane board away from the system board. See Figure 1-2.

Installing the System/Backplane Board Assembly

CAUTION: See your *System Information Guide* for complete information about safety precautions, working inside the computer, and protecting against electrostatic discharge.

NOTE: It is not necessary to remove the hard drives or the CD/diskette drive from the system during this procedure.

To install the system board/backplane board assembly, perform the following steps:

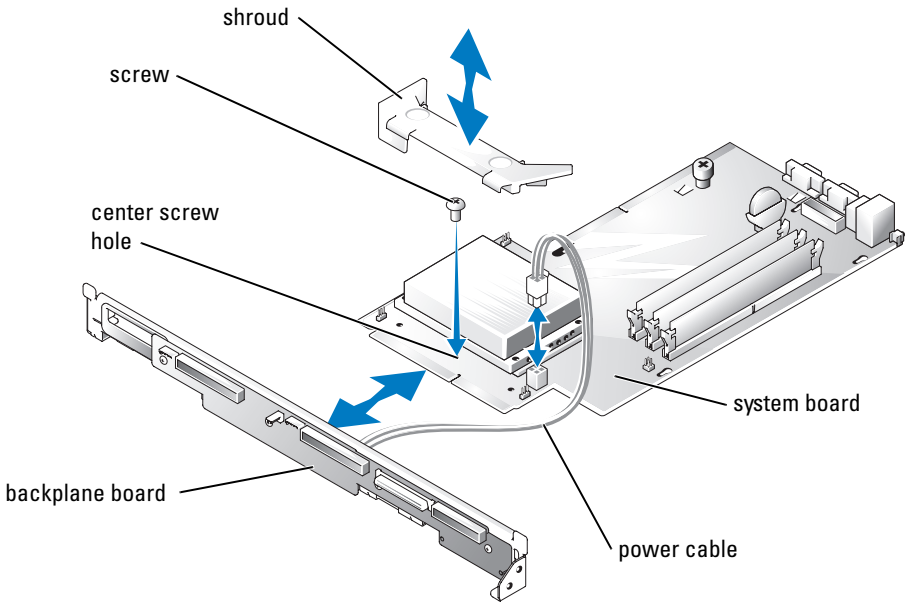
1 Connect the four-conductor power cable to the back of the backplane (connector U3). Secure this connector with a plastic cable tie to the backplane.

2 Connect the system board to the backplane board. See Figure 1-2.

NOTICE: Use a screw *only* in the center screw hole to secure the system board/backplane board to the chassis.

3 Using *one* of the three Phillips screws removed in step 21 of the board removal procedure, secure the system board/backplane board to the chassis *using the center screw hole* (see Figure 1-3). Discard the other two screws.

Figure 1-3. Joining the System/Backplane Board Assembly



4. Connect the free end of the four-conductor power cable that you installed on the back of the backplane (in step 1) to the power connector (CN2) on the system board.
5. Lower the system board/backplane board into the system chassis with the grounding posts through the holes on the system board.
6. Slide the system board/backplane board assembly back towards the system back panel.

   Ensure that the tabs on the backplane are installed through their slots on the system chassis, and that the grounding posts are properly locked in their slotted holes on the system board.
7. Secure the backplane securing latch by sliding it toward the backplane until it locks. See Figure 1-1.
8. Secure the system board to the system chassis by tightening the thumbscrew. See Figure 1-1.
9. Lower the backplane releasing latches to the locked position. See Figure 1-2.
10. Install the riser board. See "Installing the Riser Board" in your *Installation and Troubleshooting Guide*.
11. Install any expansion cards that were removed. See "Installing an Expansion Card" in your *Installation and Troubleshooting Guide*.
12. Replace the system battery, if it was removed. See "Replacing the Battery" in your *Installation and Troubleshooting Guide*.
13. Replace the processor, if it was removed. See "Replacing the Processor" in your *Installation and Troubleshooting Guide*.

14 Replace the cooling shrouds.

15 Install the memory modules, if they were removed. See "System Memory" in your *Installation and Troubleshooting Guide*.

16 Connect the control panel cable to the front of the backplane. See "Installing the Control Panel Assembly" in your *Installation and Troubleshooting Guide*.

17 Connect the hard-drive interface cables either to the backplane or through the backplane to the hard-drive controller card, if one is installed.

18 Connect the hard-drives power cables from backplane connectors JP1 and JP2 to the hard drives. See "Installing a Hard Drive" in your *Installation and Troubleshooting Guide*.

19 Connect the CD/diskette drive interface cable to the backplane connector CN1.

20 Install the power supply. See "Replacing the Power Supply" in your *Installation and Troubleshooting Guide*.

21 Connect the power supply cable to the back of the backplane (connector J2). See "Replacing the Power Supply" in your *Installation and Troubleshooting Guide*.

22 Install the fan assemblies. See "Installing a Fan Assembly " in your *Installation and Troubleshooting Guide*.

23 Close the system. See "Closing the System" in your *Installation and Troubleshooting Guide*.

24 Reconnect the system to its electrical outlet and turn the system on, including any attached peripherals.

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